

GARBAGE COLLECTION WITH A DYNAMIC WINDOW

ABSTRACT

5 A system and method for intelligent generational garbage collection using a dynamic window. During normal memory allocation, a sliding window defines a young generation within an older generation or other area of memory. When data are stored that will become garbage within a finite period of time, a temporary phase of operation is initiated. In the temporary allocation phase, the lower bound
10 of the window is fixed, while the upper bound is allowed to expand to accommodate new objects. When the data become garbage, the window is garbage collected and compacted, and normal memory allocation and garbage collection operations resume. Thus, the window is dynamic in both movement and size. When the temporary allocation phase is initiated, the young generation
15 may be garbage collected and compacted, and the lower window bound may be fixed at the location (e.g., address) where the allocation point was when the target data were stored.